A patient with colorectal cancer is given an injection of an IgG-hMN-14 x anti-peptide Fab' bsAb. After 48 h, to allow for maximum accretion in tumors, the patient is given a clearing dose of galactose-WI2-Fab'. This amount is between 5 and 15 times the amount of primary bsAb remaining in circulation at the time-point specified. Three hours after administration of the galactose-W12-Fab', a tumor-saturating amount of the carboxylesterase-Cys.Lys(DTPA).Tyr.Lys(DTPA).NH_2 (SEQ ID NO: 5) conjugate from example 11 is given, and allowed to clear circulation and normal tissues. After an additional three hours, a standard chemotherapy dose of CPT- 11 is administered to the patient. This protocol effectively generates free SN-38 specifically at the tumor target sites and effects the destruction of tumor cells.

Please replace the paragraph before Table 11 on page 62 as follows:

The experiment was repeated with a lyophilized kit of IMP 225 (Ac-Cys(Dox-$COCH_2$-)-Lys(DTPA)-Tyr-Lys(DTPA)-NH_2 (SEQ ID NO: 5) MNa^+ 1938), containing 11 micrograms of peptide.

IN THE CLAIMS

Please cancel claims 30, 32, 35, 36, and 49 and enter the following amended claims into the record. The changes are shown explicitly in the attached "Versions with Markings to Show Changes Made in the Claims."

31. (Amended) A set of expression cassettes capable of producing a bi-specific Fab'-scFV fusion protein having at least one arm that specifically binds to a targeted tissue and at least one other arm that specifically binds to a targetable conjugate which comprises a carrier portion which comprises or bears at least one epitope recognizable by said at least one other arm of said bi-specific antibody or antibody fragment, and one or more conjugated therapeutic or diagnostic agents, or enzymes, wherein each cassette comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region

functional in a mammalian host cell, a translational initiation regulatory region functional in said mammalian host cell, a DNA sequence encoding scFv linked to a Fd fragment, and a transcriptional and translational termination regulatory region functional in said mammalian host cell, wherein expression of said fragment is under the control of said regulatory regions, wherein said set of expression cassettes produces a bispecific Fab'-scFV fusion protein when expressed in mammalian host cells.

33. (Amended) A method of preparing a bi-specific Fab'-scFv fusion protein having at least one arm that specifically binds a targeted tissue and at least one other arm that specifically binds a targetable conjugate which comprises a carrier portion which comprises or bears at least one epitope recognizable by said at least one other arm of said bi-specific antibody or antibody fragment, and one or more conjugated therapeutic or diagnostic agents, or enzymes, comprising:

(1) (A) introducing into a mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said host cell a fragment of said bi-specific fusion protein, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said mammalian host cell, a translational initiation regulatory region functional in said mammalian host cell, a DNA sequence encoding a scFv linked to a Fd fragment, and a transcriptional and translational termination regulatory region functional in said mammalian host cell, wherein expression of said fragment of said bi-specific fusion protein is under the control of said regulatory regions;

(B) co-introducing into said mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said mammalian host cell a light-chain antibody fragment which is complementary to said Fd fragment in (A) and which when associated with said Fd fragment forms a Fab' fragment whose binding site is specific for said targeted tissue, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said mammalian host cell, a translational initiation regulatory region functional in said mammalian host cell, a DNA sequence encoding a light-chain

antibody fragment, and a transcriptional and translational termination regulatory region functional in said mammalian host cell, wherein expression of said light-chain antibody fragment is under the control of said regulatory regions;

(C) growing said cell; and

(D) isolating said bi-specific Fab'-scFV fusion protein, or

(2) (A) introducing into a first mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said first mammalian host cell a fragment of said bi-specific fusion protein, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said first mammalian host cell, a translational initiation regulatory region functional in said first mammalian host cell, a DNA sequence encoding a scFv linked to a Fd fragment, and a transcriptional and translational termination regulatory region functional in said first mammalian host cell, wherein expression of said fragment of said bi-specific fusion protein is under the control of said regulatory regions;

(B) introducing into a second mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said second mammalian host cell a light-chain antibody fragment which is complementary to said Fd fragment in (2)(A) and which when associated with said Fd fragment forms a Fab' fragment whose binding site is specific for said targeted tissue, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said second mammalian host cell, a translational initiation regulatory region functional in said second host cell, a DNA sequence encoding a light-chain antibody fragment, and a transcriptional and translational termination regulatory region functional in said second mammalian host cell, wherein expression of said light-chain antibody fragment is under the control of said regulatory regions;

(C) growing said first and second mammalian host cells;

(D) optionally isolating said bi-specific fusion protein fragment and said light-chain antibody fragment;

(E) combining said fragments to produce a Fab'-scFV bi-specific fusion protein; and

(F) isolating said bi-specific fusion protein.

34. (Amended) A method of preparing a bi-specific Fab'-scFV fusion protein having at least one arm that specifically binds a targeted tissue and at least one other arm that specifically binds a targetable conjugate which comprises a carrier portion which comprises or bears at least one epitope recognizable by said at least one other arm of said bi-specific antibody or antibody fragment, and one or more conjugated therapeutic or diagnostic agents, or enzymes, comprising:

(1) (A) introducing into a mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said mammalian host cell a fragment of said bi-specific fusion protein, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said mammalian host cell, a translational initiation regulatory region functional in said mammalian host cell, a DNA sequence encoding a scFv linked to a light-chain antibody fragment, and a transcriptional and translational termination regulatory region functional in said mammalian host cell, wherein expression of said fragment of said bi-specific fusion protein is under the control of said regulatory regions;

(B) co-introducing into said mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said mammalian host cell a Fd fragment which is complementary to said light-chain antibody fragment in (A) and which when associated with said light-chain antibody fragment forms a Fab' fragment whose binding site is specific for said targeted tissue, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said mammalian host cell, a translational

initiation regulatory region functional in said host cell, a DNA sequence encoding a Fd fragment, and a transcriptional and translational termination regulatory region functional in said mammalian host cell, wherein said expression of Fd fragment is under the control of said regulatory regions;

(C) growing said cell; and

(D) isolating said bi-specific Fab'-scFV fusion protein, or

(2) (A) introducing into a first mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said first mammalian host cell a fragment of said bi-specific fusion protein, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said first mammalian host cell, a translational initiation regulatory region functional in said first mammalian host cell, a DNA sequence encoding a scFv linked to a light-chain antibody fragment, and a transcriptional and translational termination regulatory region functional in said first mammalian host cell, wherein expression of said fragment of said bi-specific fusion protein is under the control of said regulatory regions;

(B) introducing into a second mammalian host cell a recombinant DNA construct comprising an expression cassette capable of producing in said second mammalian host cell a Fd fragment which is complementary to said light-chain antibody fragment in (2)(A) and which when associated with said light-chain antibody fragment forms a Fab' fragment whose binding site is specific for said targeted tissue, wherein said construct comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said second mammalian host cell, a translational initiation regulatory region functional in said second mammalian host cell, a DNA sequence encoding a Fd fragment, and a transcriptional and translational termination regulatory region functional in said second mammalian host cell, wherein expression of said Fd fragment is under the control of said regulatory regions;

(C) growing said first and second mammalian host cells;

(D) optionally isolating said bi-specific fusion protein fragment and said Fd fragment; and

(E) combining said fragments to produce a bi-specific Fab'-scFV fusion protein; and

(F) isolating said bi-specific fusion protein.

37. The construct of claim 33, wherein said at least one arm that specifically binds a targeted tissue is a humanized antibody or a fragment of a humanized antibody.

38. The construct of claim 33, wherein said at least one other arm that specifically binds a targetable conjugate is a humanized antibody or a fragment of a humanized antibody.

39. (Amended) The construct of claim 33, wherein said at least one other arm specifically binds said epitope of said targetable conjugate, and said epitope comprises a peptide.

40. (Amended) The construct of claim 33, wherein said at least one other arm specifically binds said epitope of said targetable conjugate, and said epitope comprises a carbohydrate.

41. (Amended) The construct of claim 33, wherein said at least one other arm specifically binds said epitope of said targetable conjugate, and said epitope comprises a hapten.

42. (Amended) The construct of claim 33, wherein said at least one other arm specifically binds said epitope of said targetable conjugate, and said epitope comprises a chelator or a metal-chelate complex.

43. The construct of claim 42, wherein said chelator is a hard base chelator for a hard acid cation.

44. The construct of claim 42, wherein said chelator is a soft base chelator for a soft acid cation.

45. The construct of claim 43, wherein said chelator is a hard base chelator that comprises carboxylate and amine groups.

46. The construct of claim 43, wherein said hard base chelator is DTPA, NOTA, DOTA or TETA.

47. (Amended) The construct of claim 33, wherein said at least one other arm specifically binds a tyrosyl-lysine dipeptide.

48. (Amended) The construct of claim 33, wherein said at least one other arm specifically binds Tyr-Lys(DTPA)-NH_2, or Lys(DTPA)-Tyr-Lys(DTPA)-NH_2.

50. (Amended) The set of expression cassettes of claim 31, wherein a second expression cassette is capable of producing in a mammalian host cell a light-chain antibody fragment which is complementary to said Fd fragment in and comprises, in the 5' to 3' direction of transcription, a transcriptional initiation regulatory region functional in said mammalian host cell, a translational initiation regulatory region functional in said mammalian host cell, a DNA sequence encoding a light-chain antibody fragment, and a transcriptional and translational termination regulatory region functional in said mammalian host cell, wherein expression of said light-chain antibody fragment is under the control of said regulatory regions, and wherein said light-chain antibody fragment, when associated with said Fd fragment, forms a Fab' fragment whose binding site is specific for said targeted tissue.